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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,035

Applicant(s)

CAST ET AL.

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-26 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13, 15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 8, 14, 16, 20-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2-9-04 have been fully considered but they are not persuasive:

1. The objection to the specification has been overcome.
2. The applicant argues that prior art cited only teaches operation of a single SMSC for different types of service users rather than for message types. The examiner disagrees for several reasons: 1) the applicant shows where Ross teaches a single SMSC, but that is a problem the design overcomes, 2) Ross' design would be used for multiple SMSC's since many would be needed in a large cellular system, 3) The combination of Ross and Rune teach QoS which addresses service for both users and message types.
3. The applicant argues that a gateway is not taught – the examiner disagrees since a “gateway” is used to connect disparate networks together. Ross teaches a multi-protocol system/interface (figure 1, #6) to provide connectivity to multiple networks (C4, L60 to C5, L7).
4. The applicant argues that prior art does not teaches a gateway using a single interface protocol. The examiner disagrees since Ross provides more functionality than that described by the applicant's invention. Ross can support one (or more) protocols via one (or more) interfaces (eg. just like Ethernet can support both TCP/IP and Novell and/or multi-mode phones/BTS's can support more than one RF protocol).
5. The applicant argues that prior art does not teach claims 3-7, 11-13 15 and 18. The examiner disagrees since the rejection puts forth that QoS is known in the art as is routing via “addresses” (ie. TCP/IP, MDN and service type). The examiner put forth several pieces of art to reinforce this fact and is not swayed by the argument.
6. Lastly, the examiner puts forth that the term “flow control” reads on their claim language as described in the Office Action.
7. Objected claims have been identified and a more favorable outcome may occur if these limitations are included in independent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 9-10 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al. US 6,263,212 in view of Rune US 6,434,396 (hereafter Ross and Rune).

As per **claims 1, 9 and 17**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach a method of delivering a message from a message source to a receiving device through a SMPP gateway (C4, L66) through which plural short message entities communicate with a plurality of message centers comprising:

Transmitting a message from the source to the gateway, the message being associated with a message type (C3, L15-52)

Determining at the gateway routing method based on service type (C11, L30-67 to C12, L1-7)

Routing the message from the gateway to one of the plurality of messaging centers according to the routing method (C11, L30-36).

With further regard to claim 17, Ross is silent on:

- mobile device terminated messages and service type

The examiner also points out that Quality of Service is well known in the art and involves the ability to sense congestion and adapt communication flows and routing paths based upon it (eg. service user and service type).

Rune teaches minimizing setup delay for a mobile terminated message (abstract) which can be interpreted as providing QoS since service is improved.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that service type is used for messages/terminated messages, to provide "quality of service" for data transmission.

As per **claims 2 and 10**, both Ross (figures 1 and 2) and the applicant's specification (figure 1, #135-136 and page 2, L19-24 and page 3, L3-24) teach claim 1/9 wherein the message source device is one of a plurality of different source devices that communicate with the gateway using a single interface protocol (C4, L54-67 teaches SMPP – per applicant's spec. which teaches single logical interface being SMPP, page 4, L12-15).

Claims 3-7, 11-13, 15 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Ross/Rune in view of Blonder US 5,946,299, Hult et al. US 5,822,700, Astrom US 5,579,372 and Stein et al. US 6,289,212 (hereafter Blonder Hult, Astrom and Stein).

As per **claims 3, 6-7 and 11**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 2 **but is silent on** wherein the routing method is selected from a group consisting of message center specific, load balancing, MDN range, equal allocation and ESN.

With further regard to claims 6-7, Ross is silent on MDN range routing routes message based on service type and MDN range of destination address.

With further regard to claim 11, Ross is silent on message receiving device specific, IP Address and destination address.

Ross does teach flow control for outbound (eg. Message Center to Mobile Unit) flow control (C9, L45-67) whereby a server runs multiple parallel processes capable of handling processing of SMS message (which reads on load balancing and equal allocation).

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" which reads on

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“rejecting some/all messages received at gateway for primary message center (Abstract).

Various other embodiments exist to perform similar functions:

- Hult teaches flow control of SMS messages in a cell network (title).
- Astrom teaches flow control during busy conditions (title and abstract)
- Stein teaches email/text services during network unavailability (abstract).

The examiner also takes **Official Notice** that flow control (and/or Quality of Service) is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it (ie. increase bandwidth, use alternate routes, use alternate hardware, etc.). Hence one skilled in the art would also use other methods such as specific message center, MDN range and ESN. ***MDN, service type, IP Addressing and destination address for message delivery is also known in the art and would be used to optimally route messages in QoS-capable networks (ie. best path, closest SMSC, service-level of user/message, etc.).***

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that various routing methods can be selected and routes based upon MDN, IP address, Destination Address, to provide optimal QoS data transmission depending upon the environment and user needs.

As per **claims 4 and 12**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 3/11 **but is silent on** wherein the message center specific routing method routes all messages for the message service type of the routed message to a specific messaging center.

With further regard to claim 12, Ross is **silent on** routing all messages for the service type to a specific receiving device.

The examiner interprets this limitation as relating to QoS and takes **Official Notice** that flow control/QoS is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it. Hence, the examiner interprets this limitation, for example, as routing a high priority message to the closest

message center (receiving device) OR to a message center (receiving device) that has the least congestion.

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that the routing method routes messages to a specific message center based on service type, to provide means for optimal QoS data transmission based on service type.

As per **claims 5 and 13**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 3/11 **but is silent on** wherein load balancing routing method routes messages to a group of message centers based on load capabilities of each message center in the group of message centers.

With further regard to claim 13, Ross is silent on routing based on load capabilities of each receiving device.

The examiner interprets this limitation as relating to QoS and takes **Official Notice** that flow control/QoS is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it. Hence, the examiner interprets this limitation, for example, as either routing messages to high-performance servers/receivers first OR routing to a secondary system/receiver that has the least congestion.

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" (Abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that the load balancing routes messages to message center(s) based upon load capabilities, to provide means for optimal QoS data transmission based on performance.

As per **claim 15**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 11 **but is silent on** wherein the IP address routing method routes the message to a destination based on IP address contained in a destination address parameter.

Ross does teach a multi-protocol interface that supports commonly known protocols such as SMPP, TAP, SMTP, TCP/TME and SS7 (C4, L60-67 to C5, L1-7). Internet Protocol (IP) is a commonly known protocol used in data communications.

The examiner takes **Official Notice** that IP Addressing provides sender and receiver information in each data packet.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that routing is based on destination IP address, to provide optimal routing via a commonly used protocol.

As per **claim 18**, both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 17 **but is silent on** invoking the routing method only if a throttle control limit is not exceeded.

Ross does teach flow control (throttling) for outbound flow control (C9, L45-67).

Blonder teaches determining if a primary server is congested and routing a packet/message to an alternate server along with a "rejected message" which reads on "rejecting some/all messages received at gateway for primary message center (Abstract).

Various other embodiments exist to perform similar functions:

- Hult teaches flow control of SMS messages in a cell network (title).
- Astrom teaches flow control during busy conditions (title and abstract)
- Stein teaches email/text services during network unavailability (abstract).

The examiner also takes **Official Notice** that throttling/QoS is well known in the art and involves the ability to sense congestion and adapt communication flows based upon it. Hence one skilled in the art would provide QoS depending upon various issues occurring (or not occurring) in the network (eg. if throttle control limit is exceeded or not).

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that various routing methods can be invoked if the throttle limit is/is not exceeded, to provide optimal QoS data transmission depending upon the environment and user's specific needs.

Claim 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Ross/Rune/Hult/Astrom/Stein in view of McCormick et al. US 6,421,709 (hereafter McCormick).

As per **claim 19** both Ross (figures 1 and 2) and the applicant's specification (figure 1 and page 2, L19-24 and page 3, L3-24) teach claim 17 **but is silent on** invoking the routing method only if an anti-spamming check returns an allowed status.

McCormick teaches an email/message filter (title) that filters junk messages (abstract, figure 8). One skilled in the art would provide for a check of spam messages since they can congest communication links and message queues.

It would have been obvious to one skilled in the art at the time of the invention to modify Ross, such that a routing method is invoked if an anti-spamming check returns an allowed status, to provide means for the QoS control that checks for spam messages.

Allowable Subject Matter

Claims 24-26 allowed: Ross does not teach the detailed list of procedures in the sequential order shown (C25-26 depend upon C24).

Claims 8, 14, 16 and 20-23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- Claim 8 and 14: Ross does not teach equal allocation routing of messages to a group of SMSC's based on sequentially sending messages to each message center in the group of SMSC's such that each message center in the group receives an equal number of messages.

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- Claim 16: Ross does not teach destination address routing method routes the message to a destination receiving device based on a value of a destination parameter.
- Claims 20-23: Ross does not teach the SMSC receiving the message and responding to the gateway that the message was received (C21-23 depend upon C20).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

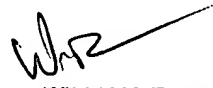
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SMD
2-20-04



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